

**METHOD AND APPARATUS FOR MEASURING A REQUIRED FEATURE  
OF A LAYER DURING A POLISHING PROCESS**

Abstract of the Disclosure

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The invention relates to a method for measuring a required feature of a thin layer (4) used in a polishing process that is carried out by a polish head by producing a localized temperature rise on the surface of the layer (4) by focusing a short pump laser pulse (11) on the surface of the layer, as to generate a sound wave (13) that propagates into the layer; repeated measuring the surface reflection properties of the layer, by passing a probe laser pulse (21) and focusing it on the surface of the layer and by monitoring the portion of the probe laser pulse that is reflected (22) by the surface, as to detect a change in surface reflection properties caused by a boundary echo (32) that is a reflected part of the sound wave (13); measuring the elapsed time between the generation of the sound wave and the change in surface reflection properties; and calculating the required layer feature.

Furthermore the invention relates to a measuring apparatus, which is able to perform the above-mentioned method.

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